REMARKS

Claims 1-6, 10 and 11 are pending in the above-identified application. Support for the changes to claim 1, as well as new claims 10 and 11, is found in Example 1 at page 12 and on pages 5-8 of the present specification.

Removal of Bases for Objections to Specification and Claims

The specification has been amended as noted above so as to remove the graphs at pages 21 and 23 thereof. New drawings in the form of Figures 1 and 2 are submitted herewith together with an insertion into the specification regarding a description of these drawings. It is submitted that these changes remove the basis for the objection to the specification, such that this objection should be withdrawn.

In addition, claims 2 and 4 have been amended as suggested in the Office Action of October 6, 2008 such that the bases for objections to these claims have also been removed.

Rejection under 35 USC 112

Claims 1-6, 8 and 9 have been rejected under 35 USC 112, second paragraph, as allegedly being indefinite. The Office Action indicates that it is unclear whether water is present in the coolant fluid or not. It is respectfully submitted that the present claim language reciting "aqueous solution comprising trimethyl glycine" clearly requires the presence of at least some water together with the trimethyl glycine. It is submitted that this language complies with all definiteness requirements under 35 USC 112, such that this rejection should be withdrawn.

Rejection under 35 USC 102(b) and 103(a)

Claims 1-3, 5, 6, 8 and 9 have been rejected under 35 USC 102(b) as being anticipated by Masuda '111 (US 1,901,111) as evidenced by Ilves '988 (WO 97/31988).

Claim 4 is rejected under 35 USC 103(a) as being unpatentable over Masuda '111 as evidenced by Ilves '988 and in view of Oppenländer '819/'445 (DE 19830819 which corresponds to US 6,413,445).

These rejections are respectfully traversed based on the following reasons.

Present Invention and Its Advantages

The present invention is directed to a method for the use of coolant fluids to cool an engine, wherein the coolant fluid is an aqueous solution of trimethyl glycine anhydrate or monohydrate and contains 2-6% by weight of additives, as recited in claim 1. Temperatures in present day engines, particularly in combustion engines used in automobiles, are very high during the use or driving of the engine and even 130°C can be reached. Typically there may appear rapid and significant changes in the temperature. Additionally so-called "hot spots" may appear in engines, which cause certain problems.

The pressure in engines typically ranges between 0.5 and 1.5 atmospheres, which is significantly higher than the pressure used for example in the applications referred to in Ilves '988 (discussed in more detail below). Further, a special phenomenon particularly appearing in engines is cavitation corrosion, which may cause problems. Thus high temperature, great sudden changes in temperature, high pressure and pressure shocks and cavitation corrosion are conditions in engines which must be addressed by fluids which are used to cool and protect engines. Also, the cooling fluid is in constant contact with several different materials including metals, such as steel, aluminum, copper, copper blends, different plastics and rubbers and other materials, which may be corroded, become brittle and/or wear down easily under unfavorable conditions.

Exhibit A submitted with the previous Amendment filed July 3, 2008 (page 357 from the Handbook Kirk-Othmer: *Encyclopedia of Chemical Technology,* 4th edition, volume 3 (1992)), describes the compatibility of elastomeric materials with ethylene glycol. At temperatures above 80°C the compatibility is significantly reduced. Based on the above it is surprising that an aqueous solution containing trimethyl glycine can be used in very demanding engine applications, such as combustive engines without any problems. Problems relating to high operation temperatures, great sudden changes in temperature, high pressure, pressure chocks and potential cavitation corrosion or wearing off, particularly relating to metals such as steel, aluminum, copper, copper

blends, different plastics and rubbers and other materials, can surprisingly be avoided, or can at least be significantly reduced by using the fluid according to the present invention, which additionally is environmentally significantly less harmful than presently used cooling fluids in engine applications.

Distinctions over Masuda '111

Newly cited Masuda '111 discloses the use of the betaine trimethyl glycine as an anti-freezing liquid for an automobile radiator. Masuda '111 discloses that this compound has the property of lowering the freezing point when dissolved in water and the solution has no corrosive action on metal surfaces. No specific metals are mentioned. Masuda '111 discloses that this material can be used as an anti-freezing compound in cooling systems. Masuda '111 very generally points out that anti-freezing compounds are used in automobile radiators.

Masuda '111 fails to disclose the use of the monohydrate or anhydrate forms of trimethyl glycine, or the use of a minimum amount of additives as recited in the present claims. Masada '111 published 1930 when the automobile engines were very different form the modem engines. Steel or other iron-based material was typically used in engine parts, but no elastomeric materials, polymeric materials or multiple metals particularly aluminum or its alloys were used at that time. Pressures and temperatures in modern engines are much higher that those in early 1930's and the requirements with respect to durability, compatibility, physical abrasion and chemical action are completely different today. Further, the cavitation corrosion effect has become a very important factor when evaluating the suitability and compatibility of engine coolants with modem high performance engines. Masuda '111 fails to mention any of these issues. Masuda '111 provides no results with any engine applications and apparently no product has been on the market based on the Masuda '111 disclosure. Consequently, significant patentable distinctions exist over Masuda '111 such that the above anticipation and obviousness rejections based on this reference should be withdrawn.

Distinctions over Ilves '988

. Ilves '988 discloses a heat transfer/cooling fluid for solar heat systems, heat pumps, refrigeration equipment, ventilation and air conditioning equipment and the like, which are typically used in technical installations in buildings. The heat transfer/cooling fluid according to Ilves '988 may be used at temperatures between -40°C and +70°C, however, the usually temperature is below 30°C. The operating temperatures in systems using the heat transfer/cooling fluid according to Ilves '988 predominantly are kept constant with no rapid changes in the temperature taking place. Further, the systems and equipment used in the applications disclosed in Ilves '988 operate under atmospheric pressure or under slightly elevated pressure, such that no sudden changes in the pressure take place and thus there appears to be no pressure-induced stress. Ilves '988 generally states at page 1, lines 10 - 11, that heat transfer/cooling fluids are commonly used in industry, technical installations in buildings, refrigeration equipment and motor applications.

Ilves '988 fails to disclose or suggest anywhere the use of a composition containing trimethyl glycine as a cooling fluid in engines or motor applications. On the contrary, on page 4, on lines 18-21, Ilves '988 states that the heat transfer/cooling fluid (according to Ilves '988) is suitable for use in applications in which the temperatures are "low". Such applications include solar heat systems, heat pumps, refrigeration equipment, ventilation and air conditioning equipment and solar panels. All these applications are systems, wherein relatively low temperatures are used, no sudden changes in temperature or pressure take place and the pressure is a normal atmospheric pressure or at most very slightly elevated pressure. Nowhere in Ilves '988 is it suggested to use a solution containing trimethyl glycine in engine applications as in the method of the present invention, wherein the operation environment is significantly more demanding and different from the above mentioned and the durability requirements relating to pressure, temperature and corrosion are completely different.

Distinctions over Oppenländer '819/'445

Oppenländer '819/'445 discloses antifreeze concentrates containing at least one water-miscible alcohol, which lowers the freezing point (i.e. alkylene glycols), at least *one* corrosion inhibitor, and a reserve alkalinity donor of at least one mono or polycyclic aromatic compound having at least one hydroxyl group with high buffer capacity (e.g. 4,4'-dihydroxydiphenyl sulfone). This concentrate is based on traditional glycols with corrosion protection properties.

Oppenländer '819/'445 fails to disclose or suggest the use of trimethyl glycine in any of the described compositions. All the exemplified compositions require the presence of a water-miscible alcohol, particularly alkylene glycol. Trimethyl glycine significantly differs from glycols and alcohols and does net belong to the group of mono or polycylic aromatic compounds. Oppenländer '819/'445 fails to provide any basis whatsoever to one skilled in the art to substitute trimethyl glycine with any of the required other components described therein. Consequently, significant patentable distinctions exist over Oppenländer '819/'445, whether taken separately or improperly combined with Masuda '111 or Ilves '988.

Distinctions over Combinations of Cited References

Masuda '111 cannot be combined with either Ilves '988 or Oppenlander '819/'445, since Masuda '111 is directed to an antifreeze liquid for automobile radiators, whereas in contrast, Ilves '988 is directed to coolants for different applications under very different conditions including low temperatures. Oppenlander '819/'445 is directed to compositions unrelated to either of those of Masuda '111 or Ilves '988, which include significantly different components as noted above.

Ilves '988 cannot be combined with Oppenländer '445. Oppenländer '445 discloses antifreeze concentrates containing at least one water-miscible alcohol, which lowers the freezing point, (alkylene glycols), at least one corrosion inhibitor and at least one mono or polycyclic aromatic compound having at least one hydroxyl group and high buffer capacity, (4,4'-dihydroxydiphenyl sulfone) as reserve alkalinity donor. This concentrate is based on traditional

glycols with improved corrosion protection properties. There is no suggestion in Oppenländer '445 to use compositions without any water-miscible alcohol, particularly alkylene glycol. Trimethyl glycine is chemically a completely different compound from the glycols, alcohols and other components in the compositions of Oppenländer '819/'445. Further, the hypothetical combination of Ilves '988 with Oppenländer '445 would not have resulted in the present invention because Oppenländer '445 clearly requires the use of alkylene glycols with mono or polycyclic aromatic compounds acting as pH buffering substances and a corrosion inhibitor in engine coolants. There is no incentive to use an aqueous solution containing trimethyl glycine in very demanding engine applications in either of the references. In the present invention it was essential to avoid completely the use of glycols, particularly because they are harmful to the health and environment and degrade very slowly. Thus, these references cannot be combined.

There is no incentive to use an aqueous solution containing trimethyl glycine anhydrate or monohydrate with 2-6wt% of additives in very demanding engine applications in any of these references. In the present invention it is essential to avoid completely the use of glycols, and to provide a new and environmentally safe coolant liquid, which is compatible with all materials of modem engines. It is essential to use a combination of trimethyl glycine anhydrate or monohydrate with additives to ensure trouble free operation in engines even at very demanding conditions. The aqueous solution containing trimethyl glycine anhydrate or monohydrate and 2-6wt% of additives surprisingly functions in modern engine applications at least equally or even better than the cooling fluids according to the state of the art.

It is submitted for the reasons above that the present claims define patentable subject matter such that this application should now be placed in condition for allowance.

If any questions arise in the above matters, please contact Applicant's representative, Andrew D. Meikle (Reg. No. 32,868), in the Washington Metropolitan Area at the phone number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By_____
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Enclosures: Figures 1 and 2